

# ABSTRACT OF THE DISCLOSURE

Decoding apparatus comprises EX-OR circuit  
exclusive ORing the Reed-Muller code and exclusive  
Ored value of mask symbol candidate pattern and the  
5 information data corresponding to the pattern, first  
decoder calculating checksum of the EX-OR circuit  
output and majority-judging the checksum to decode  
a part of the second portion of the information data,  
second decoder exclusive ORing the EX-OR circuit output  
10 and a product of the part of the second portion and  
the orthogonal codes and majority-judging the exclusive  
OR result to decode a remaining part of the second  
portion, Reed-Muller encoder encoding the information  
data, and minimum detector detecting the minimum of  
15 Euclidean distance between an output from the Reed-  
Muller encoder and the Reed-Muller code supplied to  
the arithmetic operation unit while a plurality of  
candidate patterns of the mask symbols are supplied to  
the arithmetic operation unit.